

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/002002

7. CLASSIFICATION OF SUBJECT MATTER

IPC7: A61K-9/127; G01N-33 15; A61K-31/13

8. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A61K-9/127

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)

Delphion, United States Patent Database, WEST, Canadian Patent Database, PubMed, IEEE, Google (Keywords: liposome*, lipophilic amine and related terms, pKa, pH, autclav* and related terms, fentanyl, ondansetron, prochlorperazine, dihydroergotamine, doxylamine, sumatriptan and related terms)

9. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
X	CA 2250073 (Camu et al.) 1997.09.25 (see entire document)	1-10, 13-30, 79, 81-89(part), 91-108(part), 118, 120(part), 121(part)
Y		31-50, 53-78, 80, 81-89(part), 91-108(part), 109-117, 119, 120-121(part), 122-126

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search
04 February 2004 (04-02-2005)

Date of mailing of the international search report
17 March 2005 (17-03-2005)

Name and mailing address of the ISA/CA
Canadian Intellectual Property Office
Place du Portage I, C114 - 1st Floor, Box PCT
50 Victoria Street
Gatineau, Quebec K1A 0C9

Facsimile No: 001(819)953-2476

Authorized officer
Wesley Sharman (819) 934-2326

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/002002

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
-----------	--	--------------------------

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/002002

X	US 5451408 (Mezel et al.) 1995.09.19 (see Examples 1-8)	1, 3-7, 10-19, 21-25, 27-30, 79, 82-86(part), 89-97(part), 99-106(part), 108(part), 109(part), 118, 120-122(part), 124-126(part)
Y		31-41, 43-47, 50-59, 61-68, 70-78, 80, 82-86(part), 89-97(part), 99-106(part), 108-109(part), 110-117, 119, 120-122(part), 123, 124-126(part)
X	CA 2477982 (Boni et al.) 2003.09.18 (see Example 3)	1, 3-20, 22-25, 27-30, 79, 82-98(part), 100-106(part), 108(part), 109(part), 118, 120(part), 121(part)
Y		31-41, 43-60, 62-68, 69-78, 80, 82-98(part), 100-106(part), 107, 108-109(part), 110-117, 119, 120-121(part), 122-126
X	Girke et al. "Comparison between the activities of cationic amphiphilic drugs to affect phospholipid-membranes and to depress cardiac function" <i>Biochemical Pharmacology</i> , 1989, 38(15) 2487-2496. (see entire document)	1-9, 15-30, 79, 81-88(part), 93-109(part), 118, 120(part), 121(part)
Y		31-49, 55-78, 80, 81-88(part), 93-109(part), 110-117, 119, 120-121(part), 122-126
X	Law et al. "Preparation of desmopressin-containing liposomes for intranasal delivery" <i>J. Controlled Release</i> , 2001, 70, 375-382. (see entire document)	1, 3-10, 13-19, 21-25, 27-30, 79, 82-89(part), 91-97(part), 99-106(part), 108(part), 109(part), 118, 120-122(part), 124-126(part)
Y		31-41, 43-50, 53-59, 61-68, 70-78, 80, 82-89(part), 91-97(part), 99-106(part), 108-109(part), 110-117, 119, 120-122(part), 123, 124-126(part)
X	Boogaerts et al. "Biodistribution of liposome-associated bupivacaine after extradural administration to rabbits" <i>Brit. J. Anaesthesia</i> , 1995, 75, 319-325. (see Material and Methods section)	1, 2, 5, 6, 10, 13-19, 21-26, 28-30, 79, 81(part), 84(part), 85(part), 89(part), 91-97(part), 99-107(part), 109(part), 118, 120(part), 121(part)
Y		31-42, 45, 46, 50, 53-59, 61-69, 71-78, 80, 81(part), 84(part), 85(part), 89(part), 91-97(part), 99-107(part), 109(part), 110-117, 119, 120-121(part), 122-126

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/002002

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
X	Boogaerts et al. "Motor blockade and absence of local nerve toxicity induced by liposomal bupivacaine injected into the brachial plexus of rabbits" <i>Acta Anaesth. Belgica</i> , 1995, 46(1), 19-24. (see methods section)	1, 2, 5, 6, 10, 13-19, 21-26, 28-30, 79, 81(part), 84(part), 85(part), 89(part), 91-97(part), 99-107(part), 109(part), 118, 120(part), 121(part)
Y		31-42, 45, 46, 50, 53-59, 61-69, 71-78, 80, 81(part), 84(part), 85(part), 89(part), 91-97(part), 99-107(part), 109(part), 110-117, 119, 120-121(part), 122-126
X	Ondriaš et al. "Lipid peroxidation of phosphatidylcholine liposomes depressed by the calcium channel blockers nifedipine and verapamil and by the antiarrhythmic-antihypoxic drug stobadine" <i>Biochim. Biophys. Acta</i> 1989, 1003, 238-245. (see entire document)	1, 3-7, 13-25, 27-30, 79, 82-86(part), 91-106(part), 108(part), 109(part), 118, 120(part), 121(part)
Y		31-41, 43-47, 53-68, 70-78, 80, 82-86(part), 91-106(part), 108-109(part), 110-117, 119, 120-121(part), 122-126
X	Wallace et al. "Antinociception and side effects of liposome-encapsulated anfentanil after spinal delivery in rats" <i>Anesth. Analg.</i> 1994, 79, 778-786. (see methods section)	1, 3, 5-10, 13-19, 21-25, 27-30, 79, 82(part), 84-89(part), 91-97(part), 99-106(part), 108-109(part), 118, 120-121(part)
Y		31-41, 43, 45-50, 53-59, 61-68, 70-78, 80, 82(part), 84-89(part), 91-97(part), 99-106(part), 108-109(part), 110-117, 119, 120-121(part), 122-126
X	CA 2056435 (Madden et al.) 1990.11.16 (see entire document)	1-8, 10, 13-30, 79, 81-87(part), 89(part), 91-109(part), 118, 120-122(part)
Y		31-48, 50, 53-78, 80, 81-87(part), 88, 89(part), 91-109(part), 110-117, 119, 120-121(part), 122-126
X	Harrigan et al. "Accumulation of doxorubicin and other lipophilic amines into large unilamellar vesicles in response to transmembrane pH gradients" <i>Biochim. Biophys. Acta</i> 1993, 1149, 329-338. (see entire document)	1-8, 10, 13-30, 79, 81-87(part), 89(part), 91-109(part), 118, 120-122(part)
Y		31-48, 50, 53-78, 80, 81-87(part), 88, 89(part), 91-109(part), 110-117, 119, 120-122(part), 123-126

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/002002

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
Y	WO 9003808 (Cherian et al.) 1990.04.19 (see entire document)	31-78, 80-117, 119-126
Y	Lukyanov et al. "Autoclaving of liposomes" <i>J. Microencapsulation</i> 1994, 11(6), 669-672. (see entire document)	31-78, 80-117, 119-126
Y	Zuidam et al. "Sterilization of liposomes by heat treatment" <i>Pharmaceutical Research</i> 1993, 10(11), 1591-1596. (see entire document)	31-78, 80-117, 119-126
A	Kikuchi et al. "Possibility of heat sterilization of liposomes" <i>Chem. Pharm. Bull.</i> 1991, 39(4), 1018-1022.	

INTERNATIONAL SEARCH REPORT**International application No.
PCT/CA2004/002002**

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
CA2250073	25-09-1997	AT202278T T AU2158097 A DE69705310D D1 EP0904057 A1 GB9605915D D0 JP2001500105T T US6149937 A WO9734582 A1	15-07-2001 10-10-1997 26-07-2001 31-03-1999 22-05-1996 09-01-2001 21-11-2000 25-09-1997
US5451408	19-09-1995	CA2119976 A1 USRE38407E E1	24-09-1995 27-01-2004
CA2477982	18-09-2003	CA2477979 A1 EP1487413 A1 EP1490027 A1 US2003224039 A1 US2004009126 A1 WO03075889 A1 WO03075890 A1	18-09-2003 22-12-2004 29-12-2004 04-12-2003 15-01-2004 18-09-2003 18-09-2003
CA2056435	16-11-1990	EP0472639 A1 JP4505616T T MX9203793 A1 WO9014105 A1	04-03-1992 01-10-1992 01-09-1992 29-11-1990
WO9003808	19-04-1990	CA2000176 A1	07-04-1990